

STATE OF ALASKA
MANDATORY SHELLFISH ONBOARD OBSERVER PROGRAM
REPORT TO THE ALASKA BOARD OF FISHERIES
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ABSTRACT

The Alaska Department of Fish and Game (ADF&G) Westward Region manages all crab observer activities in the Bering Sea/Aleutian Islands (BSAI) and scallop observer activities statewide.

Varying levels of observer coverage are required for all BSAI fisheries. During 2001 observers collected data from BSAI fisheries while deployed on catcher processors (C/P), floating processors (F/P), catcher vessels (C/V), and scallop vessels (S/V). Depending on the fishery, the cost of observer coverage is the responsibility of the fishing vessel or funded through ADF&G test fishery cost recovery funds.

Shellfish observers are required to attend training, and pass an ADF&G shellfish observer exam with a score of 90% or better in order to qualify for deployment onboard vessels to collect shellfish fisheries data as representatives of ADF&G.

INTRODUCTION

At-sea fishery observers have become an integral component of fisheries management for the purpose of monitoring fisheries and data collection. The Magnuson-Stevens Fishery Conservation and Management Act (MSFCMA) of 1996 states in Findings (8) “The collection of reliable data is essential to the effective conservation, management, and scientific understanding of the fishery resources of the United States” (U.S. Department of Commerce, National Oceanic Atmospheric Administration, National Marine Fishery Service 1996).

The state of Alaska Shellfish Onboard Observer Program has evolved to help meet the MSFCMA National Standards. The Alaska Department of Fish and Game (ADF&G) commercial shellfish fishing regulations 5AAC 39.645. SHELLFISH ONBOARD OBSERVER PROGRAM state that onboard observers are the only practical data-gathering mechanism for the operation of the Bering Sea and Aleutian Islands crab fisheries (BSAI) without unduly disrupting the operation of these fisheries.

This report summarizes the activities of the department’s shellfish observer program for calendar year 2001. These activities include contracting with observer providers for observer services, training, briefing, debriefing, and evaluation of observer and observer provider activities.

BACKGROUND

History of Program

In April 1988, the Alaska Board of Fisheries (BOF) adopted regulations requiring onboard observers on all vessels that process king and Tanner crabs *Chionoecetes bairdi* within Alaskan waters. The observer requirement was prompted by information collected by ADF&G, which suggested that illegal processing of undersized and female crabs by at-sea processors was occurring. Processor reports showed consistently higher production rates by catcher-processors (C/P) compared to catcher-only vessels (C/V). These regulations resulted in creation of the Mandatory Shellfish Onboard Observer Program, which first deployed observers in the September 1988 Bristol Bay red king crab *Paralithodes camtschaticus* fishery.

At inception, the primary goals of the program were to monitor compliance of sex and size regulations of retained crabs and collect data for inseason management of BSAI fisheries.

In the spring of 1990, the BOF adopted regulations which broadened mandatory observer coverage to include vessels processing snow crabs *Chionoecetes opilio*. This change was considered necessary based on reports of undersized Tanner crabs processed and labeled as snow crabs. The BOF also defined observer qualification standards, observer and observer company conflict of interest guidelines, and observer duties and responsibilities. In the fall of 1991, the BOF adopted new regulations concerning observer certification and decertification.

During the spring 1993 BOF meeting, the weathervane scallop *Patinopecten caurinus* fishery was designated a high-impact emerging fishery and the BOF developed a fishery management plan. Regulations were adopted mandating that ADF&G institute an observer program for the scallop fishery, which were implemented on June 27, 1993. Primary goals were to assess scallop population dynamics and document the impact of scallop fisheries on other organisms through analysis of data collected from dredge samples.

Additional changes were made to the observer program from 1993 to 1997. In 1993, the requirement to carry shellfish observers as a condition of the permit on all vessels fishing for hair crabs *Erimacrus isenbeckii* in the Bering Sea was enacted. Regulations implemented in 1994 require, as a condition of the fishing permit, 100% observer coverage on all vessels targeting grooved Tanner crabs *Chionoecetes tanneri*, triangle Tanner crabs *Chionoecetes angulatus*, scarlet king crabs *Lithodes couesi*, and cherry crabs *Paralomis multispina*. Regulations requiring shellfish observers on all vessels fishing for king crabs in the Aleutian Islands registration area were enacted in 1995. Separate certifications for crab and scallop observers were put into regulation in 1997.

Miscellaneous fisheries such as those that target grooved Tanner crab and scarlet king crab are quite often small emerging fisheries where an observer is required as a condition of the Commissioner's fishing permit. Many of these permit fisheries have targeted previously unexploited shellfish stocks where little or no data is available to facilitate proper management. Some of the miscellaneous fisheries occur in sensitive habitat utilized by juvenile stages of commercially important species. Management and research of these fisheries rely almost completely on observer-collected data to determine the impacts of fishing activities conducted in these areas.

An amendment to the MSFCMA provided for the development and implementation of a Community Development Quota (CDQ) program for crab fisheries occurring in the Bering Sea. The CDQ amendment was incorporated into the existing state-managed shellfish fisheries in 1998. Currently, there are six separate CDQ groups designated for the Bering Sea. Fisheries covered by the CDQ program include Bristol Bay red king crab, Norton Sound red king crab, St. Matthew blue king crab *Paralithodes platypus*, Pribilof red and blue king crab, and Bering Sea Tanner and snow crab. A level of observer coverage is required for participation of CDQ groups in these fisheries.

A recent development affecting the Bristol Bay red king crab fishery is the implementation of the American Fisheries Act (AFA) passed by Congress in 1998. This act gives pollock fishers exclusive fishing privileges in the Bering Sea pollock *Theragra chalcogramma* fishery. To protect the interests of fishers not directly benefited by the AFA, sideboards were established for AFA boats qualified to participate in Bering Sea crab fisheries. Observer coverage levels equal to the rest of the C/V fleet are required for AFA vessels.

The observer program was modified by the BOF in March of 1999. Most significantly, the board granted ADF&G full authority and responsibility for deploying observers on any vessel participating in BSAI crab fisheries. Funding for additional observer deployments through department cost recovery fishing was also approved. The BOF established an industry oversight

task force to make recommendations for program implementation to ADF&G and report to the BOF on crab observer program issues. The state-funded portion of the program was initiated July 1, 2000.

Although observer program regulations apply statewide, activities have focused on the BSAI crab fisheries, where all at-sea processing of king and Tanner crabs occur. ADF&G policy stipulates that all observer activities are to be coordinated by the management office responsible for the specific fisheries requiring observer coverage. Consequently, the observer program staff in Dutch Harbor supports the majority of crab observer activity. Scallop observer briefings and debriefings have been more dispersed. The Dutch Harbor office has conducted some briefings and debriefings of scallop observers deployed in the Bering Sea, Dutch Harbor, Kodiak, and Alaska Peninsula Area scallop fisheries. ADF&G offices in Kodiak, Cordova, and Yakutat also brief and debrief observers for various scallop fisheries managed from those offices.

See Boyle and Schwenzfeier (2000) for a detailed history of Alaska's mandatory shellfish observer program.

SHELLFISH OBSERVER PROGRAM GUIDELINES

Shellfish Observer Program guidelines were originally defined by the BOF in 1988 and have been refined over time. Guidelines defining the responsibilities of each group (ADF&G, observer providers, observers, and vessels) involved in the observer program can be found in the Alaska Administrative Code, 5 AAC 39.141 ONBOARD OBSERVER PROGRAM, 5 AAC 39.142 CONFLICT OF INTEREST STANDARDS FOR ONBOARD OBSERVERS AND INDEPENDENT CONTRACTING AGENTS, 5 AAC 39.146 ONBOARD OBSERVER BRIEFING AND DEBRIEFING, 5 AAC 39.645 SHELLFISH ONBOARD OBSERVER PROGRAM, and 5 AAC 39.646 SHELLFISH ONBOARD OBSERVER TRAINEE PROGRAM QUALIFICATIONS AND REQUIREMENTS.

Alaska Department of Fish and Game

The Alaska Department of Fish and Game is responsible for establishing policies and procedures for certification and decertification of contracting agents and observers. The department, for data consistency and reliability, developed observer training standards, sampling procedures, and sampling guidelines. ADF&G maintains the observer program consistent with the aforementioned regulations.

Observer Providers

Observer providers, also referred to as observer companies or contractors, are tasked to hire, train, deploy, and logistically support their observers with food, accommodations, sampling equipment, and transportation. Observer companies secure contracts for observer services

directly with vessel owners/operators and with ADF&G for state-funded observer coverage on C/Vs in BSAI king and Tanner crab fisheries.

Observers

Observer qualifications include a minimum of a Bachelor degree in the sciences of biology or any branch of biology, or a valid National Marine Fisheries Service (NMFS) observer certification, or employment history demonstrating the ability, once trained, to perform the duties of a shellfish observer. Observer candidates are required to undergo ADF&G approved training and must demonstrate 90% proficiency on the ADF&G shellfish observer written examination. Observer companies conducted training of observers in the past; however, most shellfish observer training has been conducted by staff of the North Pacific Observer Training Center (OTC) in Anchorage since 1991. The facility is operated through the University of Alaska Sea Grant program and trains shellfish observers for the ADF&G program, as well as groundfish observers for the NMFS program. As part of their training, crab observers must also participate in a practical training exercise administered by the observer program staff in Dutch Harbor.

As representatives of ADF&G, observers are required to adhere to a detailed set of standards outlined in regulation to ensure the observer program deploys biologists with the highest professional standards possible. They are not allowed to have a financial interest in the fishery or vessel to which they are assigned. Observers are limited to no more than 90 days of duty on any one vessel during any 12-month period. Trainee observers have 180 days to gain their full observer certification and certified observers who are inactive for 12 consecutive months forfeit their certification. To regain certification an observer candidate must be retrained and re-tested.

Vessels

Regulations require the cost of observers to be borne by the shellfish industry or by the department through cost recovery fishing. When required, vessel owners and operators are to procure and pay for observers through a qualified observer provider and offer to their observer food and accommodations equal to that of the vessel's crew. The vessel must also dedicate a safe work area, necessary totes to hold the contents of sampled pots, and allow the observer opportunity to adequately sample the catch according to specific ADF&G requirements. Accurate fishing effort and harvest data must be provided daily to the observer, as well as access to communication equipment at all times.

Vessels must show proof of compliance with U.S. Coast Guard vessel safety requirements. Vessels required to carry an observer must have a current Commercial Fishing Vessel Safety Examination (CFVSE) decal from the United States Coast Guard (USCG). Language in the MSFCMA and in state commercial fishing regulations requires that vessels carrying observers meet USCG commercial fishing vessel safety standards. Whenever possible, before a fishery, USCG personnel board and examine safety equipment on vessels that must carry observers. Quite often, even though a vessel possesses the CFVSE decal, the vessel's safety equipment does

not meet the USCG requirements, usually because equipment currency dates have expired since the last examination.

OBSERVER DUTIES

Upon first boarding a vessel the observer is required by ADF&G to verify that all safety equipment on the vessel is current and in usable condition.

On vessels actively fishing, observers are required to obtain daily catch/location records and periodically report the vessel's crab fishing effort and harvest to ADF&G. Observers also sample and count all the contents of a specified number of crab pots each day and record daily fishing activities and catch information. On processor-only vessels, observers collect fishing and catch information from all vessels delivering to the processor and periodically report the harvest and effort to ADF&G.

Fish and Wildlife Troopers assist OTC and ADF&G staff to instruct observers in evidence collection, handling procedures, and proper chain-of-custody documentation. In the event that a potential violation is encountered, the Alaska Department of Public Safety, Fish and Wildlife Protection Division (FWP) will later interview the observer, usually ask for a written statement, and occasionally require the observer to testify in court.

In addition to normal duties, observers are assigned numerous special projects, ranging from shellfish and finfish specimen and morphometric data collection to documenting observations of birds and mammals.

Catcher-Processor Vessel

Daily sampling duties specific to C/P vessel observers are 1) biological sampling and counting of the entire contents of a specified number of randomly selected pots, 2) biological sampling of 100 retained crabs for size and shell age, 3) average weights from a specified number of crab, and 4) size, sex and species compliance monitoring through a legal tally of 600 retained crabs conducted throughout the day. Daily catch/effort data is also collected and periodically reported to ADF&G. Observers are also asked to conduct processed crab section counts and case weights in the factory to verify catch data supplied by the vessel operator on a weekly basis.

Floating Processor Vessel

Sampling duties specific to floating processor (F/P) vessel observers are 1) interviewing skippers for confidential catch/effort information, 2) determine average weight of retained crabs, 3) biological sampling of 100 retained crabs for size and shell age, and 3) size, sex, and species

compliance monitoring through a legal tally of 600 retained crabs being delivered. These sampling duties are conducted on all vessels delivering to the processor.

Catcher-Only Vessel

Daily sampling duties specific to C/V observers are 1) biological sampling and counting of the entire contents of a specified number of randomly selected pots and 2) interview skipper for confidential catch information. During deliveries the observer 1) determines the average weight of retained crab, 2) collects biological data from 100 retained crabs, and 3) monitors size, sex, and species compliance through a legal tally of 600 crab in the live tank.

PROGRAM REVIEW

Recent Changes to the Crab Observer Program

Several changes were made to the crab observer program at the March 1999 BOF meeting and implemented by the department's shellfish observer program on July 1, 2000.

Catcher-only Observer Deployments

In addition to existing requirements for observer coverage on at-sea processing vessels, ADF&G was given authority to deploy crab observers on an adequate number of C/Vs in each BSAI crab fishery to ensure the department's ability to collect data for management and research and to meet requirements of the MSFCMA and the Fishery Management Plan for Bering Sea/Aleutian Islands King and Tanner crabs (NMFS 1998).

Preseason Vessel Registration

Along with regulations providing for observer coverage on a portion of C/Vs, new provisions were adopted which require all vessels to complete a preseason registration form prior to each BSAI king and Tanner crab fishery. The preseason list of registrants is used to randomly select C/Vs that will carry observers in each fishery. Even though they are required to preseason register, vessels less than 75 ft. are not required to carry observers because there are few vessels in that size category and therefore are not considered a significant component of the fleet.

Test Fishery Authority to Fund Selected Shellfish Observer Deployments

ADF&G has been given test fish authority to fund a portion of observer deployments in the BSAI crab fisheries. This test fish authority is capped at \$650,000 and structured as a revolving fund, which, if not used in one fiscal year, may be rolled into and available for the following fiscal year. A total of \$669,500 was collected for the state-funded portion of the observer program from the harvest and sale of red king crab after the close of the 1999 Bristol Bay red king crab fishery

(Table 1 and 2). The department adopted a policy not to conduct additional cost recovery fishing until the balance was projected to fall below \$300,000.

Cost recovery funds collected in 1999 were used to fund a portion of the crab observer deployments beginning on July 1, 2000. Continued closure of the 2000 Saint Matthew blue king, Pribilof red and blue king and Bering Sea Tanner crab fisheries, along with a shortened 2001 Bering Sea snow crab fishery, reduced the need for cost recovery funds. Based on these anticipated coverage levels for fiscal year 2001 (FY01), the cost recovery funds collected in 1999 were adequate for the duration of FY01.

The state-funded portion of the observer program expenses totaled \$47,500 in FY00, and \$262,375 during FY01. The projected expenditure for FY02 is \$370,000. The observer fund balance for at the end of FY02 is projected to be below \$300,000. Therefore cost recovery was conducted after the close of the 2001 Bristol Bay red king crab general fishery. A total of \$461,045 was collected from the sale of red king crab (Table 1 and 2).

Crab Observer Oversight Task Force

The BOF established a 15 member Crab Observer Oversight Task Force (COOTF), made up of crab industry members, to interact with the ADF&G and BOF on crab observer issues. These issues included observer coverage levels and the cost recovery program for funding observer deployments.

The COOTF and ADF&G met seven times between April 1, 1999 and May 30, 2000 to discuss implementing changes to the crab observer program. These meetings were either in person or via teleconference. Among the task force recommendations adopted for the 2000-2001 season was the use of cost recovery funds to pay for C/V observer coverage in fisheries that historically had no C/V observers: the St. Matthew and Pribilof king crab fisheries, Bristol Bay red king crab, Bering Sea Tanner and snow crab fisheries, and the Bering Sea golden king crab fisheries.

The COOTF and ADF&G met once during FY01 on June 14, 2001 via teleconference. During this meeting the task force agreed to continue to strive for the same coverage level goals adopted for the 2000/2001 fisheries (Table 3). Observer coverage is either paid directly by the vessel (pay-as-you-go), funded by cost-recovery proceeds generated by department test fishing, or a combination of the two. Funding for observer coverage during the Bering Sea golden king crab fisheries was changed from being funded completely by the test fish fund for the 2001 season to a combination of 50 percent pay-as-you-go and 50 percent funded by the test fishery on a vessel by vessel basis for the 2002 season.

Observer coverage levels remain at 100% and under the pay-as-you-go system for at-sea processors participating in BSAI king or Tanner crab fisheries, for all vessels in the Aleutian Islands king crab fisheries, and for all vessels in the commissioner's permit hair crab, deep-water king crab, and deep water Tanner crab fisheries. Likewise, observer coverage for vessels in the CDQ and AFA fisheries remain under the pay-as-you-go system.

Observer Coverage Levels and Procurement of Observers

The department's goal for the 2000/2001 season was to deploy observers on 10% of C/Vs per vessel size category, with a minimum of five observers per category in selected fisheries (Table 3). ADF&G initiated a plan to hire and deploy eight seasonal ADF&G staff observers. The remainder of the observers required for the 2000/2001 season would be obtained through a formal invitation to bid (ITB) sent out to observer contracting companies. The solicitation required the successful bidder to provide up to 15 crab observers per fishery. No responses were received. Contractors indicated uncertainties about the number and duration of upcoming crab fisheries and could not bid without greatly elevating observer costs. ADF&G subsequently sent out smaller ITBs for observer services on a fishery-by-fishery basis. Contractors responded to the ITBs and were able to provide observers for reasonable costs; however, they were not able to provide enough observers to meet the department's coverage level goals.

During the summer of 2000, two Workplace Alaska recruitments were conducted in an effort to hire eight ADF&G staff observers. Six applicants were determined qualified and hired by the department. One of the probationary ADF&G staff observers did not pass the written exam upon completion of training and was not retained. In addition to the five ADF&G staff observers, four candidates recruited by two of the observer companies were also trained during the class.

During 2000/2001 the state-funded observer coverage levels on C/V vessels was 5.1% for the 2000 Bristol Bay red king crab season and 3.5% for the 2001 Bering Sea snow crab season. Coverage levels were short of the 10% goal because of lack of available observers.

Changes were made for the 2001/2002 ITB and sent out to observer companies in June 2001. The process was more contractor-friendly because contractors did not have to provide a minimum number of observers to meet the contract terms. Observer services were requested from the lowest bidder first. The lowest bidder supplied as many observers as possible to help meet the demand. If the required numbers of observers were not available from the lowest bidder, the department then requested additional services from the next lowest bidder.

In July, 2001 one Workplace Alaska recruitment was conducted to hire five ADF&G staff observers. Five new staff were hired, and trained; all new staff passed the exam. In addition, four observer companies trained 16 observer recruits at the OTC, of which 14 passed the final exam and became trainee crab observers.

Because observer availability had improved in the 2001/2002 fishery seasons, the state-funded observer coverage levels increased on catcher-only vessels. Coverage was 10% during the 2001 Bristol Bay red king crab season and 6% for the 2002 Bering Sea snow crab season. The observer coverage level for the Bering Sea snow crab season fell short of the 10% level because a number of observers who deployed during the Bristol Bay red king crab season found other employment and were unavailable for deployment as crab observers in January.

2001 OBSERVER DEPLOYMENTS BY FISHERY

Tracking of observer deployments and vessel assignments for all shellfish fisheries in this report are by calendar year. The length of an observer deployment in observer-days is defined as the total number of days from the observer's briefing to their debriefing. One observer-month is equivalent to 30 observer-days.

Observer activity in 2001 increased from 1999, and 2000 (Table 4, and Figure 1). Spikes of observer activity in 2001 occurred during the months of January, February, August and October coinciding with the Bering Sea snow crab, Eastern Aleutian Islands golden king crab, and Bristol Bay red king crab fisheries (Table 5, and Figure 2). The total number of vessels requiring observer coverage has remained fairly steady since 1996; however, the ratio of C/Vs to processing vessels changed to reflect a steady industry trend away from processing vessels (Table 6).

During the 2001 calendar year, 11 fisheries were conducted that required observer coverage. A total of 162 briefings, 38 midtrip debriefings, and 161 debriefings were conducted in 2001. Most or 40% of the observer sessions in 2001 were conducted for the Aleutian Islands golden king crab fishery, with Bristol Bay red king crab observer sessions making up 18% of the year's observer activity (Table 7 and Figure 3).

A total of 538,338 pots were pulled by observed vessels. Of those, 31,316 pots were sampled by observers for an overall sampling rate of 5.8% (Table 8).

Aleutian Islands Golden King Crab For Calendar Year 2001

The Aleutian Islands (Area O) golden king crab *Lithodes aequispinus* fishery opens annually on August 15 and continues through August 14 of the following calendar year unless closed earlier by emergency order. One hundred percent observer coverage is required on all vessels participating in the Aleutian Islands king crab fisheries. Observer deployment data summarized for this fishery are for calendar year 2001, a period encompassing the last half of the 2000/2001 fishery and the first half of the 2001/2002 fishery. The Area O golden king crab fishery, unlike all other fisheries in the BSAI, remains open most of the year.

The portion of the Aleutian Islands king crab Registration Area O west of 174° W longitude closed for the 2000/2001 season May 28. The first briefing for 2000/2001 in 2001 was conducted on January 4. The last debriefing date for the 2000/2001 fishery year was conducted on June 4, 2001.

The 2001/2002 Registration Area O golden king crab fishery opened on August 15, 2001. The eastern portion of Registration Area O closed by emergency order on September 10, 2001. The first briefing date for the 2001/2002 fishery was on August 10, 2001 and the last debriefing was on December 20, 2001.

During the 2001 calendar year Aleutian Islands golden king crab fishery observers were deployed on one C/P and 20 C/Vs for a total of 69 observer months at sea during a total of 57 observer trips (Table 9). For this fishery, 58 briefings, 28 midtrip debriefings and 57 debriefings were conducted in calendar year 2001 (Table 7 and Figure 3). The total number of pots pulled by vessels that carried observers in 2001 were 486,031. Of these pots 27,654 were sampled by observers for a sampling rate of 5.7% (Table 8).

Since 1997, there has been a shortage of available observers during the months of August and September relative to the needs of vessels at the time of the Aleutian Islands golden king crab fishery opening. By July 15, 2001 vessels and observer companies began contacting ADF&G regarding serious observer shortages for the 2001/2002 Aleutian Islands golden king crab season opening. More vessels than usual planned to participate beginning on August 15. Five of the 21 vessels that indicated interest could not obtain observers.

The department's observer program staff immediately contacted the OTC director for help. In less than 2 weeks a rapid response crab observer training class was conducted at OTC to help fill the immediate need for observers. In addition, department staff in Dutch Harbor trained and tested one former crab observer the weekend before the opening of the 2001 Aleutian Islands king crab fishery.

By the season opening on August 15, one vessel in the fleet had still not obtained an observer. That vessel contracted with ADF&G for a trained department employee to act as a crab observer until one was available through an observer provider.

2001 Bering Sea Snow Crab General Fishery

The 2001 general fishery opened on January 15. A total of 207 vessels participated in the fishery. Most of the C/Ps began fishing on January 15 but the C/V fleet did not settle on a snow crab price until February 1, 2001. During the two weeks between January 15 and February 1 most C/Vs remained tied up or fished for cod and state-funded contract observers remained onboard their assigned C/Vs. The fishery closed on February 14. The department's goal was to cover catcher vessels at 10%, but due to the lack of observer availability, actual coverage level on C/Vs was 3.5% (Table 9 and Figure 4). Observers were deployed on seven C/Ps, three F/Ps, and seven C/Vs accounting for 22.7 months of deployment time at sea during a total of 20 observer trips (Table 9). The first briefing date for the 2001 snow crab fishery was on January 9 and the last debriefing date was on February 26. Twenty briefings, one midtrip debriefing, and 20 debriefings were conducted for this snow crab fishery (Table 7 and Figure 3). The total number of pots pulled by vessels that carried observers were 22,155. Of these pots 728 were sampled by observers for a sampling rate of 3.3% (Table 8).

2001 CDQ Bering Sea Snow Crab

The 2001 Bering Sea CDQ snow crab fishery began 72 hours after the closure of the general fishery on February 17. The observer requirement for participating vessels was two observers for

each of the six CDQ groups. A total of 11 C/Vs fished and 11 observers were deployed accounting for 9.6 months of deployment at sea during a total of 11 observer trips (Table 9). The first briefing date for this CDQ fishery was on February 15 and the last debriefing was conducted on April 2. For the 2001 CDQ snow crab fishery 11 briefings, no midtrip debriefings, and 11 debriefings were conducted (Table 7 and Figure 3). The total number of pots pulled by vessels that carried observers was 14,320. Of these pots, 771 were sampled by observers for a sampling rate of 5.4% (Table 8).

2001 Bering Sea Golden King Crab

The Bering Sea golden king crab fishery opens annually on January 1 and closes on December 31 unless closed earlier by emergency order. Since July 1, 2000, 100% observer coverage is required on all vessels that participate in this fishery. Observer coverage was funded in full through the state-funded portion of the observer program.

Six vessels participated in the 2001 fishery. The first vessel began fishing in mid February after the snow crab season closure. The Pribilof District of the Bering Sea golden king crab fishery closed on April 15. One vessel moved to the northern district of the Bering Sea to continue fishing golden king crab.

Observers were deployed on 6 C/Vs accounting for 10.2 months of deployment at sea during a total of nine observer trips (Table 9). The first briefing for this fishery was conducted on February 20 and the last debriefing was on May 25. Nine briefings, two midtrip debriefings and nine debriefings were conducted for this fishery (Table 7 and Figure 3). The total number of pots pulled by vessels that carried observers were 4,513. Of these pots 1,356 were sampled by observers for a sampling rate of 30% (Table 8). The high pot sampling percentage in this fishery was a result of slower paced fishing and a low CPUE, enabling observers to sample a greater percentage of pots pulled.

2001 Western Aleutian Red King Crab Surveys, January and November

The department assessed a portion of the Western Aleutian Islands red king crab stock from January through mid-February and again from November 1 to November 30. The survey focused on the Petrel Bank area that has been closed to commercial red king crab fishing since the 1995/1996 season. Because of fiscal constraints, the department structured the survey to allow commercial fishers to assist in the survey. A fishing permit authorized the retention of all legal-sized red king crab captured. However, vessels were required to carry observers and cover observer costs.

Observers acted as crew leaders on the survey, working closely with the captain and crew to collect all survey data required by the permit. As a condition of the survey permit, a briefing for each vessel participating was conducted by observer and management staff and attended by both the vessel operator and the observer assigned to that vessel. This provided an excellent forum for

any concerns or questions about the survey for ADF&G from both the vessel operators and observers.

In the January survey, one observer was deployed on one C/P. During the November survey, observers were deployed on one C/P and three C/Vs. That resulted in a total of 5.3 months observer at-sea deployment time during a total of five observer trips (Table 9). Five briefings, one midtrip debriefing, and five debriefings were conducted for this fishery (Table 7 and Figure 3). The total number of pots pulled by vessels that carried observers was 699. Of these, 137 pots were sampled by observers for a sampling rate of 19.6% (Table 8). As required by the survey permit, the contents of all pots pulled were categorized and counted by sex, size, and species. The crew, under the direction of the observer, assisted in the collection of this data.

2001 Bristol Bay Red King Crab General Fishery

The department required 10% observer coverage on C/Vs during the 2001 Bristol Bay red king crab general fishery. The fishery opened on October 15 and closed by emergency order on October 18. Two hundred thirty-three vessels participated with 195 vessels registered as catcher only, including 31 AFA vessels. Six C/Ps and one F/P registered and carried observers. A total of 23 vessels, including three AFA vessels, carried observers in the C/V fleet: seven in >125 foot category and 16 in the 75-125 foot size category. All C/V observer coverage was state funded with the exception of three AFA vessels. The AFA cooperative collectively funded observer coverage for their fleet.

Rough seas, creating unsafe conditions for work on deck, was a major limiting factor for sampling of bycatch. Many of the observers were forced to stop sampling during fishing operations due to weather-related safety conditions on deck. Eleven of the 23 C/V operators stopped fishing for two to 12 hours due to severe weather conditions on October 17. Observers were deployed on six C/Ps, one F/P, and 23 C/Vs, resulting in 12.6 months of observer deployment time during a total of 33 observer trips (Table 9). The first briefing for this fishery was conducted on October 8 and the last debriefing was conducted on October 29. Thirty three briefings, no midtrip debriefings, and 33 debriefings took place for this fishery (Table 7 and Figure 3). The total number of pots pulled by vessels that carried observers was 8,104. Of these pots, 504 were sampled by observers for a sampling rate of 6.2% (Table 8). Two observers collected evidence for the retention of sublegal male red king crab and female red king crab (Table 10).

2001 CDQ Bristol Bay Red King Crab

The 2001 Bristol Bay CDQ red king crab fishery began 72 hours after the closure of the general fishery on October 21. The observer requirement for vessels participating this fishery was one observer for each of the six CDQ groups. A total of 10 C/Vs participated. Observers were deployed on six C/Vs, resulting in 2.7 months of deployment at sea during a total of 6 observer trips (Table 9). The first briefing date for this fishery was on October 20 and the last debriefing date for the fishery was on November 7. Six briefings, one midtrip debriefing and six debriefings

were conducted for this fishery (Table 7 and Figure 3). The total number of pots pulled by vessels that carried observers was 2,516. Of these, 166 pots were sampled by observers for a sampling rate of 6.6% (Table 8).

2001 Bering Sea Hair Crab

No fishery was conducted in 2001 due to low stock abundance.

2001 Permit Fisheries

In 2001, the only permit fisheries requiring observer coverage were the Grooved Tanner crab fisheries in the Eastern Aleutian Islands, South Peninsula, and Bering Sea Districts. In the Eastern Aleutians, one observer deployed for 0.9 months on a C/V and in the Bering Sea District, one observer was deployed on one C/V for a total of 1.6 months at-sea (Table 9). Even though an observer was briefed and debriefed for the South Peninsula grooved Tanner crab fishery no fishing occurred. Due to the limited number of vessels involved in these districts all fishing and sampling information is confidential.

2001 Norton Sound Red King Crab

The Norton Sound red king crab fishery is managed out of the department's Nome office. The Nome shellfish management staff conducts all observer briefings and debriefings for this fishery. One observer was deployed out of Nome in 2001 (Table 9).

2001 Weathervane Scallop

The 2001 scallop fisheries opened in all state and federal waters on July 1. Statewide, observers were deployed on seven unique S/Vs completing 15 trips in four different scallop registration areas and totaling 14.1 months at sea. Observers were deployed in the Bering Sea, Kodiak, Prince William Sound, Yakutat, and District 16 during calendar year 2001. Tables 11, 12, and 13 show statewide scallop observer activity by area and year from 1993 through 2001.

2001 Observer Training, Certification, and Decertification

Crab Observer Program

Since the inception of the observer program, 32 crab observer training classes have been conducted, attended by 469 candidates. At the end of 2001, there were 56 certified observers in the crab observer program. Program exam and candidate information is summarized in Table 14.

Two crab observer training classes were conducted at the OTC in Anchorage during 2001. Both classes were conducted differently than in recent years and implemented on a trial basis only. The first class was a rapid response to a serious observer shortage in August. The second class was scheduled and of normal duration, but the syllabus was altered to accommodate the individuals that had been previously trained as scallop observers.

The first class in August was put together in mid-July as a response to a serious observer shortage. ADF&G and OTC approved and scheduled a 3-day crab observer crash course as a short-term remedy for the observer shortage. When contacted by the department in July, the OTC director indicated there were two days at the end of July in which they could train crab observers whose certification lapsed due to inactivity. As the end of the month drew near, no former crab observers were interested. Consequently, the pool from which to recruit crab observers was expanded to include certified scallop observers and certified level II groundfish observers. All applicants had to be observers in good standing with good deployment performance records and also approved by both ADF&G and OTC. To help students not familiar with the State of Alaska's crab fisheries management and regulations, OTC personnel, as well as the crab observer instructor worked hard to accommodate the situation by providing space and time for one more training day. OTC observer instructor, Kyle Hogrefe, developed a syllabus, approved by ADF&G, that covered all aspects of crab fisheries management and crab observer data collection that would enable students to pass the ADF&G crab observer examination. The entire training and testing was conducted in 3 days, requiring long classroom days and late night homework hours. Four out of the five students passed the test with a score of 90% or above.

Both students and instructor felt this crash course training should not be repeated because of the amount of learning that had to occur in such a short time. Most felt this course could be done in five or six days with the same applicant and approval criteria. ADF&G briefing personnel extended the briefing time to include more detail and time for questions and answers because of the truncated class time. Upon evaluation, the deployment performance of these four trainees was acceptable and all data errors recoverable. As with all shellfish observer trainees, midtrip debriefing times were also extended to discuss all aspects of the data collection to assure accuracy.

To provide another needed observer for the Aleutian Islands golden king crab fleet, the weekend following the OTC crab observer crash course, a two-day instruction and exam was conducted by ADF&G personnel in Dutch Harbor to retrain a former crab observer who had been decertified due to inactivity. Because of the short notice given for the rapid response crash course this observer was not available for training the previous week.

The second class was scheduled by OTC and approved by ADF&G in April of 2001 for dates September 24 through October 5. A new split syllabus course was developed to allow certified scallop observers and prior crab observers decertified due to inactivity to attend the second week of class only. The department worked with OTC to overhaul the crab training course syllabus for the purpose of accommodating observers who had previous shellfish observer training.

Both students and instructor felt that waiting until the second week to cover all sampling and data collection lessons was too much for the class to absorb in four days of classroom and homework

assignments. The time was too short to cover all aspects of sampling, to clear up confusion, and answer questions effectively and adequately. Furthermore, in general, the class felt unsure about their preparedness for the fifth and final day of the second week when they took an exam that determined whether or not he/she would continue employment as an observer. Conversely the students felt that the first week of class was filled with dead time that could have been used to begin instruction and assignments of sampling and data collection protocols.

Nineteen of the 21 candidates passed the ADF&G crab observer examination and went onto the dockside practicum conducted in Dutch Harbor on October 7 and 8 aboard the F/V Royal Viking. Of the 19 trainees 12 had previous observer experience.

Both of the experimental classes that were conducted in 2001 are not going to be repeated in the future because of the lack of time allowed to learn all the necessary material. However, ADF&G and OTC will continue to consider alternative instruction for specific situations and evaluate these accordingly. As per shellfish regulation 5 AAC 39.143, all candidates must pass the final ADF&G crab observer exam with a score of 90% or better to be employed as an ADF&G crab observer. Whenever a truncated crab class is offered, only candidates with previous shellfish observer experience will be considered and successful completion of the class will give those observers the same privileges as candidates that complete the normal two week class.

During 2001, no crab observers were decertified for 12 months of inactivity or for expiration of their 180-day trainee permit. Two observers were decertified for failure to comply with Shellfish Observer Program standards. In 2001 the observer turnover was the lowest since 1990. See Table 14 for a summary of observer training and participation since 1988.

Scallop Observer Program

One scallop observer training class was held at the OTC in June of 2001. Four candidates attended training and were issued trainee permits. All trainee observers subsequently received full certification by the end of 2001. Certification data, by year since inception of the Scallop Observer Program, is presented in Table 15.

No scallop observers were decertified in 2001 for 12 months of inactivity and no scallop observers were decertified for failure to comply with observer program standards. Eight certified scallop observers remained in the program on December 31, 2001.

2001 Evidence Collection

State shellfish observers collected evidence associated with potential illegal activities on five observer trips in calendar year 2001. The percentage of trips where evidence was collected was the lowest since the inception of the observer program. All fisheries except the Aleutian Islands golden king crab fishery had lower incidences of evidence collection. Evidence collection by observers, for the years 1991-2001, is summarized in Table 10.

For the years 1991-1995, most evidence was collected in the Bering Sea Tanner crab fishery. In 1996 and 1997, the Aleutian Islands golden king crab fishery accounted for most evidence collected. In 1998, both the Aleutian Island golden king and Bering Sea snow crab fisheries generated the most evidence collections. In the Aleutian Islands golden king crab fishery, the percentage of deployments where evidence was collected went from 31 % in 1998 to only 3 % in 1999. These percentages climbed slightly in 2000 and 2001 to 6.7% and 5.3%, respectively. In 2001, 60% of all evidence collected was from the Aleutian Islands golden king crab fishery and the remaining 40% was collected during the Bristol Bay red king crab fishery (Table 17).

2001 Data Analysis

The large volume of biological data collected by shellfish observers is summarized annually by the observer program database staff. A summary and analysis of this data is available in two separate reports: Barnard, Moore, and Burt (2001) and Barnard (2001).

Conflict of Interest Potential of Current Pay-As-You-Go System

Fishing vessel companies continue to negotiate directly with observer companies for observer services, which creates a potential conflict of interest. The competitive pressure on observer contracting companies to procure and maintain contracts with fishing vessel companies creates incentives for vessels to manipulate the system to their advantage. The pressure on companies to provide observers who meet the needs of their clients can influence an observer company's hiring practices.

The current system can place an observer in a position of potential compromise between ADF&G requirements (which include documenting illegal activities and collecting evidence) and wishes of the vessel for the observer to ignore violations. An observer's willingness to ignore violations committed by the vessel can dramatically affect profits and ensure the observer company future contracts.

Observer Morale and Unionization

Prior to observer unionization, competitive pressures resulted in reduced observer salaries and contributed to the high turnover rate of observers. Low observer morale spanning the years prior to observer unionization was principally caused by decreases in observer pay and deploying new, trainee observers over experienced observers. This low morale may have adversely influenced the quality and integrity of the observer data.

These factors led observers in the state shellfish and federal groundfish observer programs to unionize under the Alaska Fishermen's Union in 1997. Collective bargaining agreements with the five observer companies were finalized and unionized observers completed all observer deployments for 1998. New regulations enacted by the BOF in 1996 required that certified observers perform 65% of a company's annual observer deployment days. These developments

have contributed to improved observer morale and higher retention rates of experienced observers.

NMFS Groundfish Observer Program

The same independent observer companies that provide shellfish observers also supply observers for the NMFS groundfish observer program. NMFS still seeks to eliminate the direct negotiations between the observer companies and the fishing vessel companies and the inherent conflict of interest in the current system. The intended “arms length” relationship between the vessels and observer companies does not exist and all proposals to create this desired relationship have been repealed or rejected to date. NMFS commissioned an independent review of their program that was completed in 2000 (MRAG Americas 2000).

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Table 1. Mandatory shellfish observer program cost recovery harvest statistics.

Year	Number of		Harvest ^{a,b}	Number of Pots Pulled	Average		Deadloss ^a
	Landings	Crabs			CPUE	Weight ^a	
1999 ^c	2	16,930	106,179	541	31.0	6.3	245
2001 ^c	2	13,065	90,151	463	28.2	6.9	103

^a In pounds.

^b Deadloss included.

^c Cost recovery fishing occurred after the open access Bristol Bay red king crab fishery.

Table 2. Economic performance for the mandatory shellfish observer program cost recovery harvest.

Value (dollars)					
Year	Harvest ^a	Exvessel	Total	Charter Dates	Total charter days
1999	105,934	\$6.32/lb.	\$669,500	10/25-11/10	17
2001	90,048	\$5.12/lb.	\$461,045	10/23-11/08	17

^a In pounds, deadloss not included.

Table 3. Observer coverage levels for the Bering Sea and Aleutian Islands crab fisheries implemented by the Crab Observer Oversight Task Force for 2001/2002.

Fishery	Preseason Registration Deadline ^a	Catcher Vessels ^b		At-sea Processors	
		Observer Coverage	Cost-Recovery Funded?	Observer Coverage	Cost-Recovery Funded?
St. Matthew blue king crab	August 24	Partial	YES	100%	NO
Pribilof red & blue king crab	August 24	Partial	YES	100%	NO
Bristol Bay red king crab	September 24	Partial	YES	100%	NO
Bering Sea Tanner crab	September 24	Partial	YES	100%	NO
Bering Sea snow crab	December 24	Partial	YES	100%	NO
St. Matthew brown king crab	21-days prior	100%	50%	100%	NO
Pribilof brown king crab	21-days prior	100%	50%	100%	NO
Hair crab	none	100%	NO	100%	NO
Triangle Tanner and grooved Tanner	none	100%	NO	100%	NO
Aleutian king crab (red or brown)	none	100%	NO	100%	NO
Cherry and scarlet king crab	none	100%	NO	100%	NO

^a When the pre-registration deadline occurs on a weekend or holiday, the deadline is extended to the next business day.

^b AFA and CDQ catcher vessels are pay-as-you-go.

Table 4. Number of observer sessions (briefings, midtrip debriefings and final debriefings) from 1991 - 2001.

Year	Jan	Feb	March	April	May	June	July	Aug	Sept	Oct	Nov	Dec	Yearly Totals
1991	74	53	91	70	64	50	23	7	24	44	96	55	651
1992	102	61	40	112	8	10	13	32	25	31	64	44	542
1993	72	24	87	15	4	21	49	27	66	57	74	38	534
1994	77	18	85	25	8	14	43	47	59	32	30	20	458
1995	55	77	24	23	30	18	20	34	45	83	66	31	506
1996	48	24	77	28	35	27	42	44	41	65	76	40	547
1997	42	25	57	14	15	14	10	42	37	40	82	13	391
1998	33	18	67	20	35	22	30	37	53	72	50	2	439
1999	23	9	42	38	25	10	13	29	38	76	35	16	354
2000	24	7	26	39	15	11	13	42	42	86	21	10	336
2001	26	43	25	20	20	10	9	41	28	104	25	10	361
Monthly Totals	576	359	621	404	259	207	265	382	458	690	619	279	N/A

Table 5. Number of observer sessions for each month of calendar year 2001 and 10-year average for 1991-2000.

	Jan	Feb	March	April	May	June	July	Aug	Sept	Oct	Nov	Dec	Totals
Briefings	23	22	4	7	7	4	5	25	4	54	6	1	162
Midtrip Debriefings	0	1	6	3	1	1	1	10	7	6	2	0	38
Final Debriefings	3	20	15	10	12	5	3	6	17	44	17	9	161
Total	26	43	25	20	20	10	9	41	28	104	25	10	361
10-yr. Average	55.0	31.6	63.3	38.4	23.9	19.7	25.6	34.1	43.0	58.6	59.4	26.9	N/A

Table 6. Summary of observer activity in the mandatory shellfish observer program, from inception (first briefing September 20, 1988) through December 31, 2001.

Year	Vessels ^a				Observer	Deployed	Certified at	Observer	Number of	Active
	C/P	F/P	C/V	S/V	Trips	Observers	Year's End ^b	Months	Sessions ^c	Contractors
1988	21	6	0	0	46	28	80	31.4	85	6
1989	22	12	0	0	124	53	98	124	250	7
1990	26	15	0	0	140	61	121	163.5	279	7
1991	33	18	0	1	282	105	114	352.2	651	6
1992	32	19	2	0	225	100	105	280.3	542	7
1993	29	21	14	11	235	80	102	216.8	534	7
1994	24	17	19	12	185	74	87	178.8	458	7
1995	21	15	50	8	211	91	95	213	506	5
1996	16	13	38	5	209	82	80	250.5	547	5
1997	15	11	30	6	157	71	78	184.4	391	5
1998	13	11	44	8	186	62	65	203.1	439	5
1999	11	11	42	8	152	48	55	148.5	354	4
2000	9	6	62	6	154	48	45	128	336	3
2001	9	5	62	4	161	59	64	150.3	361	4

^a Unique vessels requiring observer coverage: C/P = Catcher Processor, F/P = Floating Processor, C/V = Catcher-Only Vessel, and S/V = Scallop Vessel.

^b Total number of observers who possess either a shellfish observer trainee permit or a full shellfish observer certification permit on December 31st of each year.

^c Briefings, midtrip debriefings and final debriefings.

Table 7. Number of observer sessions per fishery for calendar year 2001.

Fishery	Number of			Totals	Percent of Total Sessions
	Briefings	Midtrips	Debriefings		
Aleutian Islands golden king crab	58	28	57	143	40
Bering Sea golden king crab	9	2	9	20	6
Bering Sea snow crab	20	1	20	41	11
Bering Sea snow crab CDQ	11	0	11	22	6
Eastern Aleutian grooved Tanner crab	1	1	1	3	<1
South Peninsula grooved Tanner crab	1	0	1	2	<1
Bering Sea grooved Tanner crab	2	1	2	5	1
Bristol Bay red king crab	33	0	33	66	18
Bristol Bay red king crab CDQ	6	1	6	13	4
Norton Sound red king crab	1	0	1	2	<1
Aleutian Islands red king crab survey	5	1	5	11	3
Statewide scallops	15	3	15	33	9
Totals	162	38	161	361	100

Table 8. Percentage of pots sampled by observers out of all pots pulled on observed vessels by fishery for calendar year 2001.

Fishery	Number of		Percent Sampled
	Pots Pulled	Pots Sampled	
Aleutian Islands golden king crab	486,031	27,654	5.7
Bering Sea golden king crab	4,513	1,356	30.0
Bering Sea snow crab	22,155	728	3.3
Bering Sea snow crab CDQ	14,320	771	5.4
Eastern Aleutian grooved Tanner crab		Confidential	
Bering Sea grooved Tanner crab		Confidential	
South Peninsula grooved Tanner crab	0	0	-
Bristol Bay red king crab	8,104	504	6.2
Bristol Bay red king crab CDQ	2,516	166	6.6
Aleutian Islands red king crab survey	699	137	19.6
Totals	538,338	31,316	5.8

Table 9. Summary of observed vessels, observer trips, percentage of total observer trips, observer-months at sea, and percentage of total observer-months at sea by fishery for the year 2001.

Fishery	Observed Vessels			Observer Trips	Percent of Total	Observer Months	Percent of Total	Percent Coverage		Vessel Participation
	C/P	F/P ^c	C/V		Obs. Trips		Obs. Mo.	C/P & F/P	C/V	
Aleutian Islands golden king crab	1	0	20	57	35.4	69	46	100	100	21
Bering Sea golden king crab	0	0	6	9	5.6	10.2	6.8	-	100	6
Bering Sea snow crab	7	4	7	20	12.4	22.7	15	100	3.5	207
Bering Sea snow crab CDQ	0	0	11	11	6.8	9.6	6.4	-	100	11
Eastern Aleutian grooved Tanner	0	0	1	1	0.6	0.9	0.6	-	100	1
South Peninsula grooved Tanner	0	0	1	1	0.6	0	0	-	100	1
Bering Sea grooved Tanner	0	0	1	2	1.2	1.6	1.1	-	100	1
Bristol Bay red king crab	6	3	23 ^b	33	20.5	12.6	8.4	100	10	232
Bristol Bay red king crab CDQ	0	0	6	6	3.7	2.7	1.8	-	60	10
Norton Sound red king crab	0	1	0	1	0.6	1.6	1.1	100	0	31
Aleutian Islands red king survey	1	0	3	5	3.1	5.3	3.4	100	100	4
Statewide scallops	4	0	0	15	9.3	14.1	9.4	100	-	4
Totals	13 ^d	5	62 ^d	161	100	150.3	100	N/A	N/A	N/A

^a C/Vs required to carry onboard shellfish observers.

^b Includes three AFA vessels.

^c May include vessels that also operated as a C/P during the same fishery.

^d Vessels are unique.

Table 10. Summary of evidence collected by shellfish observers, 1991 - 2001.

Fishery	Year	Observer Trips	Trips with Evidence	Percent of Observed Trips ^a	Percent of Year's Evidence ^b
St. Matthew / Pribilof red and blue king crab	1991	11	0	0	0
	1992	15	1	6.7	2.4
	1993	11	1	9.1	5.6
	1994	11	1	9.1	6.7
	1995	7	1	14.3	4.3
	1996	7	4	57.1	19
	1997	4	0	0	0
	1998	6	1	16.7	2.5
	1999		No Fishery		
	2000		No Fishery		
	2001		No Fishery		
Dutch Harbor area golden king crab	1991	4	1	25	2.4
	1992	6	1	16.7	2.4
	1993	0	0	0	0
	1994	2	1	50	6.7
	1995	19	0	0	0
Adak area red and golden king crab	1991	21	3	14.3	7.1
	1992	20	5	25	11.9
	1993	12	1	8.3	5.6
	1994	11	2	18.2	13.3
	1995	29	5	17.2	21.7
1996 golden king crab fishery only	1996	46	3	6.5	14.3
Aleutian Islands golden king crab ^c	1996	34		5.9	28.6
	1997	53	13	24.5	54.2
	1998	35	11	31.4	26.8
	1999	37	1	2.7	10
	2000	60	4	6.7	57.1
	2001	57	3	5.3	60
	1991	39	8	20.5	19
	1992	24	8	33.3	19
	1993	25	3	12	16.7
	1994		No Fishery		

-Continued-

Table 10. (page 2 of 4)

Fishery	Year	Observer Trips	Trips with Evidence	Percent of Observed Trips ^a	Percent of Year's Evidence ^b
Bristol Bay red king crab	1995		No Fishery		
	1996	7	0	0	0
	1997	15	3	20	12.5
	1998	22	3	13.6	7.3
	1999	11	3	27.3	30
	2000	26	1	3.8	14.3
	2001	33	2	6.1	40
Bering Sea snow crab	1991	149	18	12.1	42.9
	1992	106	19	17.9	45.2
	1993	63	8	12.7	44.4
	1994	55	8	14.5	53.3
	1995	50	14	28	60.9
	1996	49	3	6.1	14.3
	1997	40	4	10	16.7
	1998	35	11	31.4	26.8
	1999	27	5	18.5	50
	2000	15	0	0	0
	2001	20	0	0	0
Bering Sea Tanner crab	1991	53	12	22.6	28.6
	1992	43	8	18.6	19
	1993	23	5	21.7	27.8
	1994	10	2	20	13.3
	1995	12	2	16.7	8.7
	1996	3	0	0	0
	1997		No Fishery		
	1998		No Fishery		
	1999		No Fishery		
	2000		No Fishery		
	2001		No Fishery		

-Continued-

Table 10. (page 3 of 4)

Fishery	Year	Observer Trips	Trips with Evidence	Percent of Observed Trips ^a	Percent of Year's Evidence ^b
Bering Sea hair crab	1992	3	0	0	0
	1993	14	0	0	0
	1994	12	0	0	0
	1995	22	0	0	0
	1996	21	3	14.3	14.3
	1997	16	4	25	16.7
	1998	12	2	16.7	4.9
	1999	8	0	0	0
	2000	3	0	0	0
	2001	No Fishery			
Grooved Tanner crab All areas ^u	1994	17	1	5.9	6.7
	1995	52	1	1.9	4.3
	1996	21	2	9.5	9.5
	1997	0	0	0	0
	1998	0	0	0	0
	1999	0	0	0	0
	2000	3	0	0	0
	2001	4	0	0	0
Miscellaneous Fisheries ^c	1992	8	0	0	0
	1993	15	0	0	0
	1994	0	0	0	0
	1995	5	0	0	0
	1996	2	0	0	0
	1997	5	0	0	0
	1998	0	0	0	0
	1999	0	0	0	0
	2000	1	0	0	0
	2001	15	0	0	0
Community Development Quota fisheries ^t	1998	35	13	37.1	37.1
	1999	42	1	2.4	10
	2000	23	2	8.6	1.5
	2001	17	0	0	0

-Continued-

Table 10. (page 4 of 4)

Fishery	Year	Observer Trips	Trips with Evidence	Percent of Observed Trips ^a	Percent of Year's Evidence ^b
Statewide scallops	2001	15	0	0	0
Summary	1991	277	42	15.2	N/A
	1992	225	42	18.7	
	1993	163	18	11	
	1994	118	15	12.7	
	1995	196	23	11.7	
	1996	190	21	11	
	1997	133	24	18	
	1998	145	41	28.3	
	1999	125	10	8	
	2000	131	7	5.3	
	2001	146	5	3.4	

^a Percentage of trips in which evidence was collected.

^b Percentage of total evidence collected, by fishery, for the fishing year (January 1 through December 31).

^c In 1996 the Adak and Dutch Harbor king crab Registration Areas were consolidated into the Aleutian Islands Area 'O' king crab Registration Area and opened on September 1st, the traditional opening time of the former Dutch Harbor area.

^d Grooved Tanner crab areas include the following: Bering Sea, Western Aleutian, Eastern Aleutian, Kodiak, Alaska Peninsula, and Southeastern Alaska.

^e Miscellaneous fisheries for all years can include: Bering Sea golden king crab, Bering Sea and Eastern or Western Aleutian octopus, surf clam, snail, St. Lawrence blue king crab, Norton Sound red king crab, Eastern Aleutian triangle Tanner crab, Western Aleutian Tanner crab, Western Aleutian hair crab, Southeast miscellaneous (urchins, shrimp, etc.), and Bering Sea snow crab CDQ experimental.

^f CDQ fisheries include Bering Sea snow crab, St. Matthew blue king crab, Pribilof red and blue king crab, and Bristol Bay red king crab

Table 11. Yearly summary by region of observed scallop vessels, number of observer trips, and observer-months at sea for Alaska weathervane scallop fisheries, 1993-2001.

	Yakutat ^a			Prince Willian Sound			Cook Inlet			Westward ^c		
	Vessel	Trips	Months	Vessel	Trips	Months	Vessel	Trips	Months	Vessel	Trips	Months
1993	8	8	3.4	7	7	2.1	0	0	0	30	57	30.7
1994	15	15	6.3	0	0	0	4	4	0.4	29	50	36.8
1995	8	9	7.8	2	2	0.9	0	0	0	2	4	4.3
1996	6	6	5.4	0	0	0	0	0	0	8	12	11.3
1997	4	4	5.6	1	1	0.4	0	0	0	12	19	15.2
1998	8	10	7.4	2	2	0.7	0	0	0	21	29	18.2
1999	3	4	5.9	2	2	0.4	0	0	0	14	21	14.4
2000	3	8	6.5	3	3	1.3	0	0	0	12	15	9.9
2001	2	4	4.1	1	1	0.9	0	0	0	7	10	9.1
Total	14 ^b	68	52.4	11 ^b	18	6.7	4 ^b	4	0.4	15 ^b	217	149.9

^a Includes District 16.

^b Vessels are unique.

^c Includes Kodiak and Bering Sea areas.

Table 12. Statewide scallop observer activity, 1993-2001.

	1993	1994	1995	1996	1997	1998	1999	2000	2001
Observed vessels	10	11	8	5	6	8	8	7	4
Observed trips	72	67	15	18	24	41	27	26	15
Observed months	36.2	43.3	13.0	16.7	21.2	26.3	20.7	17.7	14.1

Table 13. Scallop observer activity by area for the calendar year 2001.

Area	Vessel(s)	Trip(s)	% Trips	Months	% Months
Yakutat	2	4	27	4.1	29.1
Prince William Sound	1	1	07	0.9	6.4
Kodiak	4	6	40	5.7	40.4
Bering Sea	3	4	27	3.4	24.1

Table 14. Crab observer training and participation since 1988.

Year	Number of		History of Year Class as of 12/31/01			Certified at year's end	Percent Turnover
	Classes	Trainees	Certified	Decertified			
				Inactivity ^a	Other ^b		
1988	3	81	0	72	9	80	1
1989	1	42	1	37	4	98	20
1990	3	26	0	24	2	121	2
1991	4	60	1	56	3	109	40
1992	2	38	1	37	0	105	29
1993	2	19	0	18	1	80	35
1994	1	16	0	15	1	67	30
1995	3	53	7	43	3	78	35
1996	3	35	5	30	0	74	35
1997	2	29	3	25	1	70	32
1998	2	22	4	18	0	56	39
1999	1	10	1	9	0	45	32
2000	2	14	9	5	0	39	33
2001	3	24	24	0	0	56	11
Totals	32	469	56	389	24	N/A	N/A

Table 15. Scallop observer training and participation since 1991.

Year	Number of		History of Year Class as of 12/31/01			Certified at year's end	Percent Turnover
			Certified	Decertified			
	Classes	Trainees		Inactivity ^a	Other ^b		
1991	0	5	0	4	1	5 ^c	0
1992	0	0	0	0	0	5	0
1993	3	19	0	18	1	22 ^c	8
1994	4	17	0	13	3	20 ^c	49
1995	0	0	0	0	0	17	15
1996	2	10	0	10	0	6	78
1997	2	10	0	10	0	8	50
1998	1	9	0	9	0	9	47
1999	1	8	0	8	0	10	41
2000	1	5	3	2	0	6	60
2001	1	4	4	0	0	8	20
Totals	15	87	8	74	5	N/A	N/A

^a Decertified due to 12-month shellfish observer employment inactivity or trainee permit expiration after 180 days.

^b Decertified for non-compliance with shellfish observer program standards.

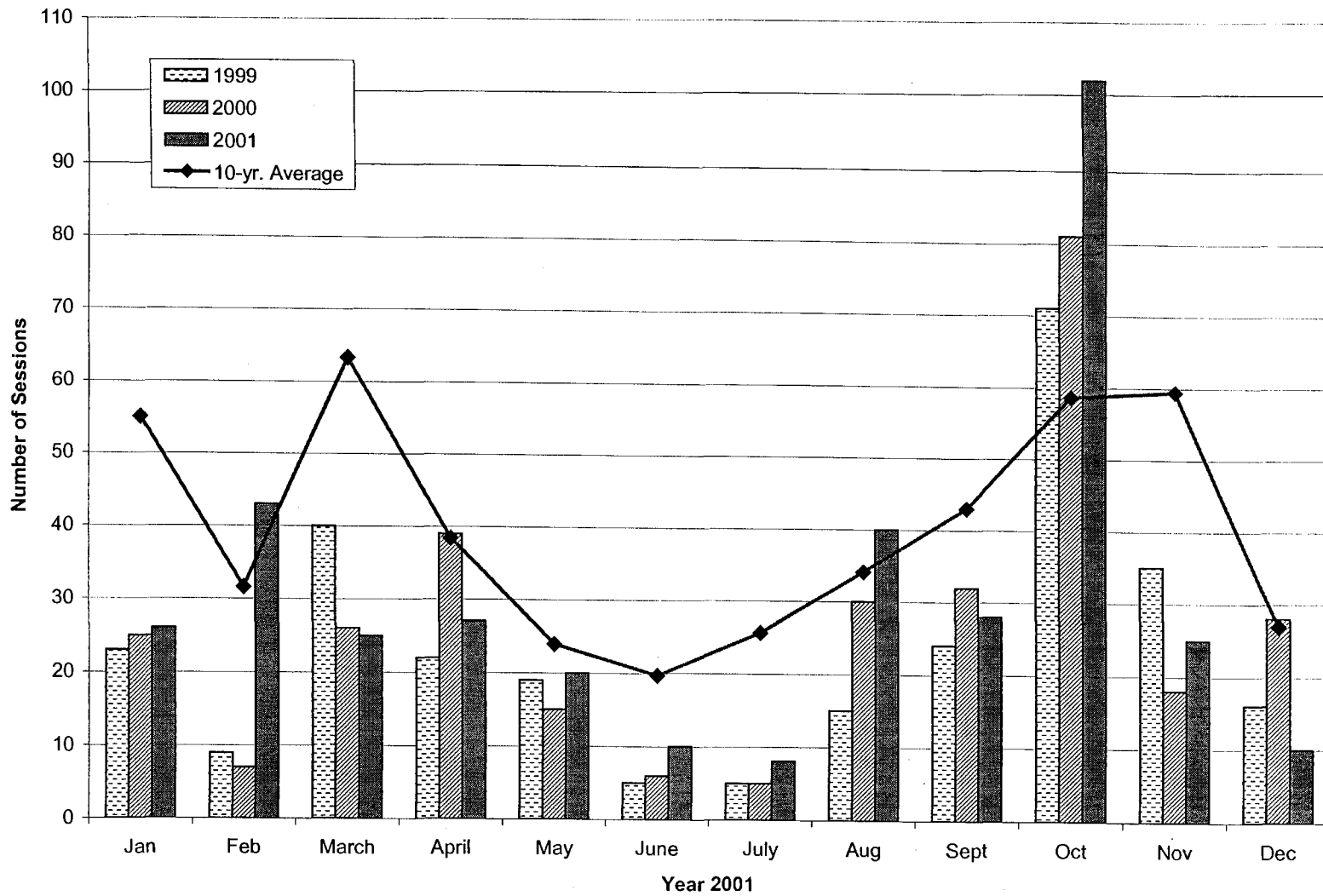


Figure 1. Comparison of total number of observer sessions (briefings, midtrips and debriefings) for the years 1999, 2000, 2001 and the 10-year average for 1991-2000.

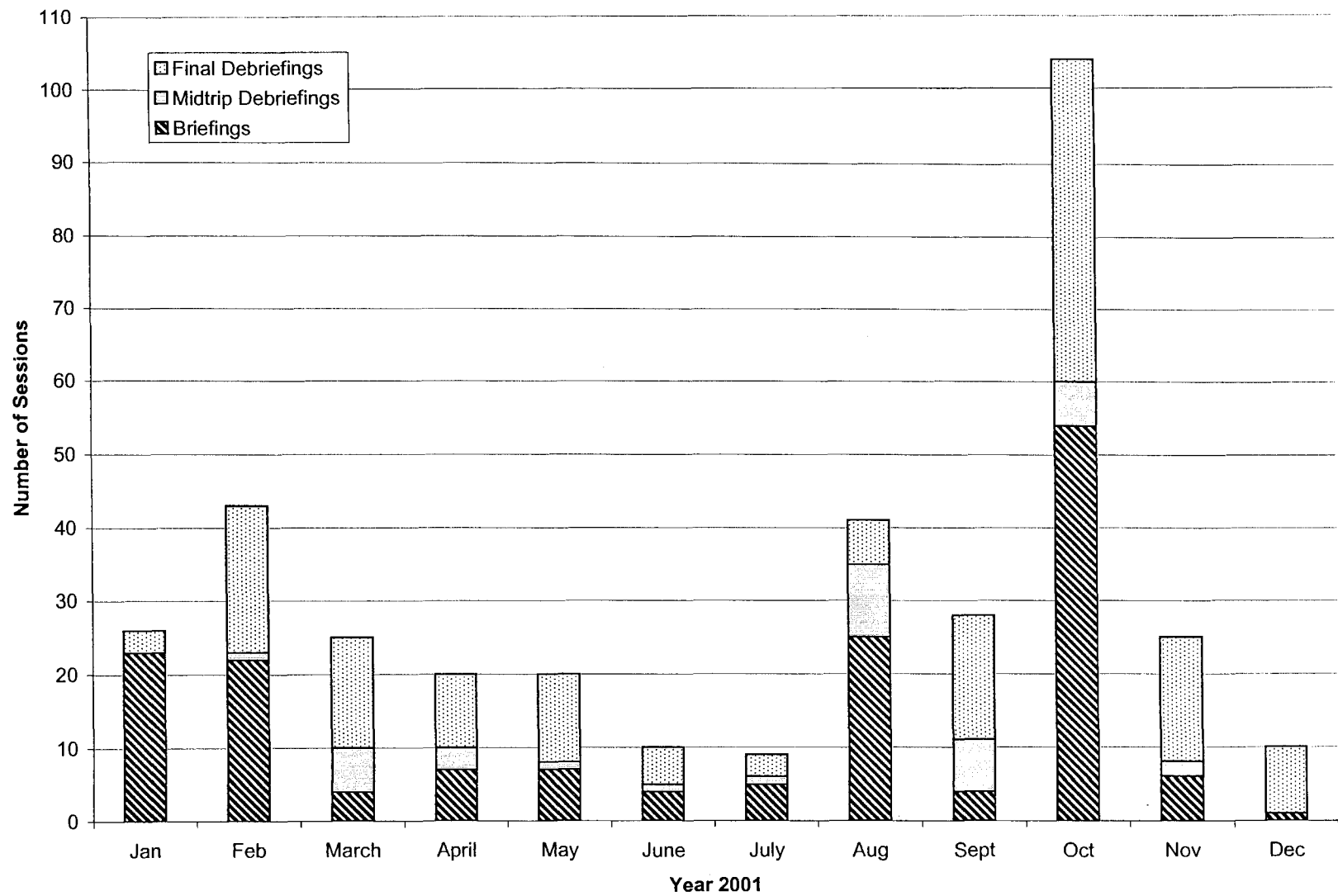


Figure 2. Total number of observer sessions (briefings, midtrip debriefings and final debriefings) for 2001.

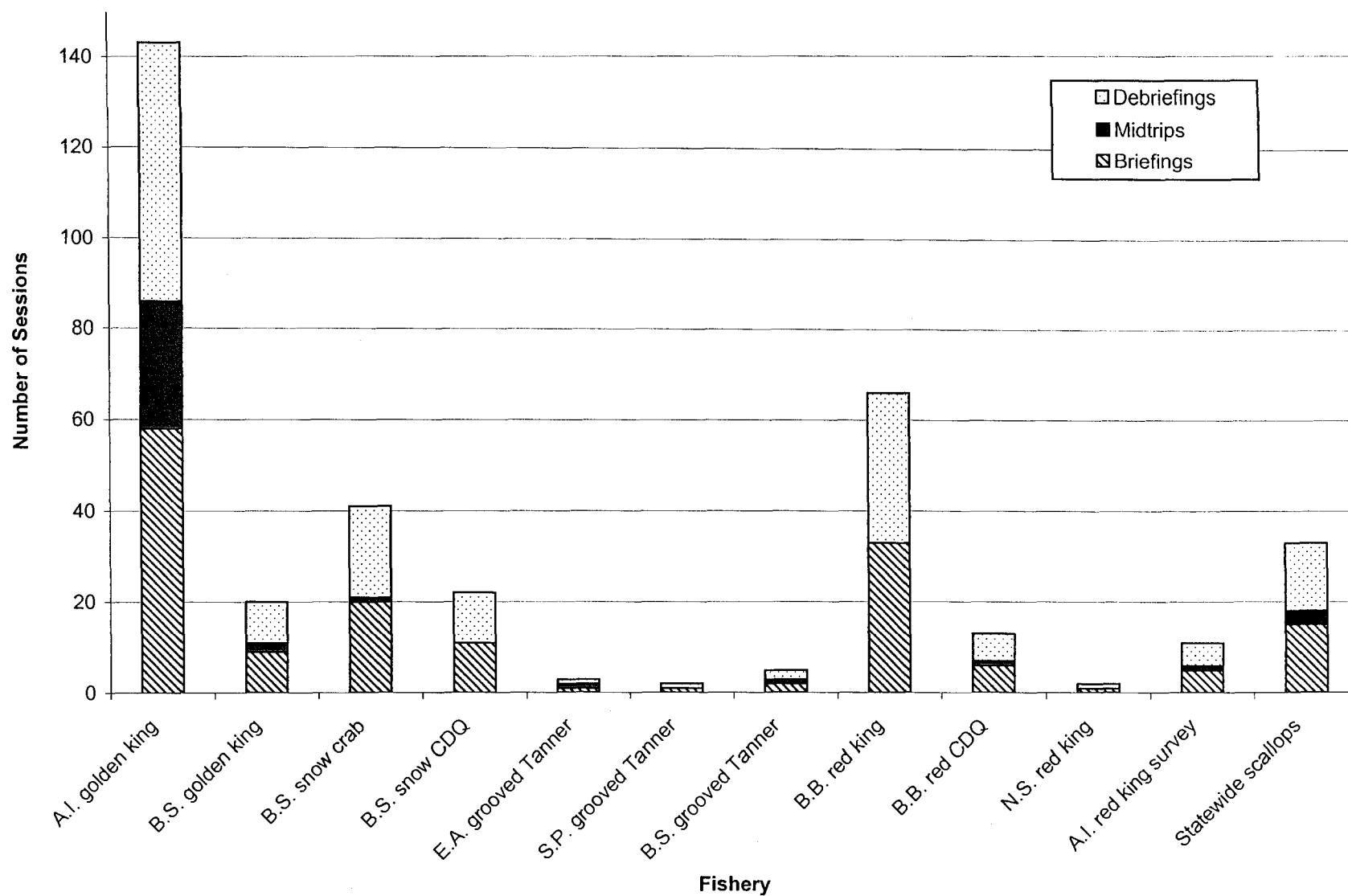


Figure 3. Number of observer sessions (briefings, midtrip debriefings and final debriefings) per fishery for the year 2001.

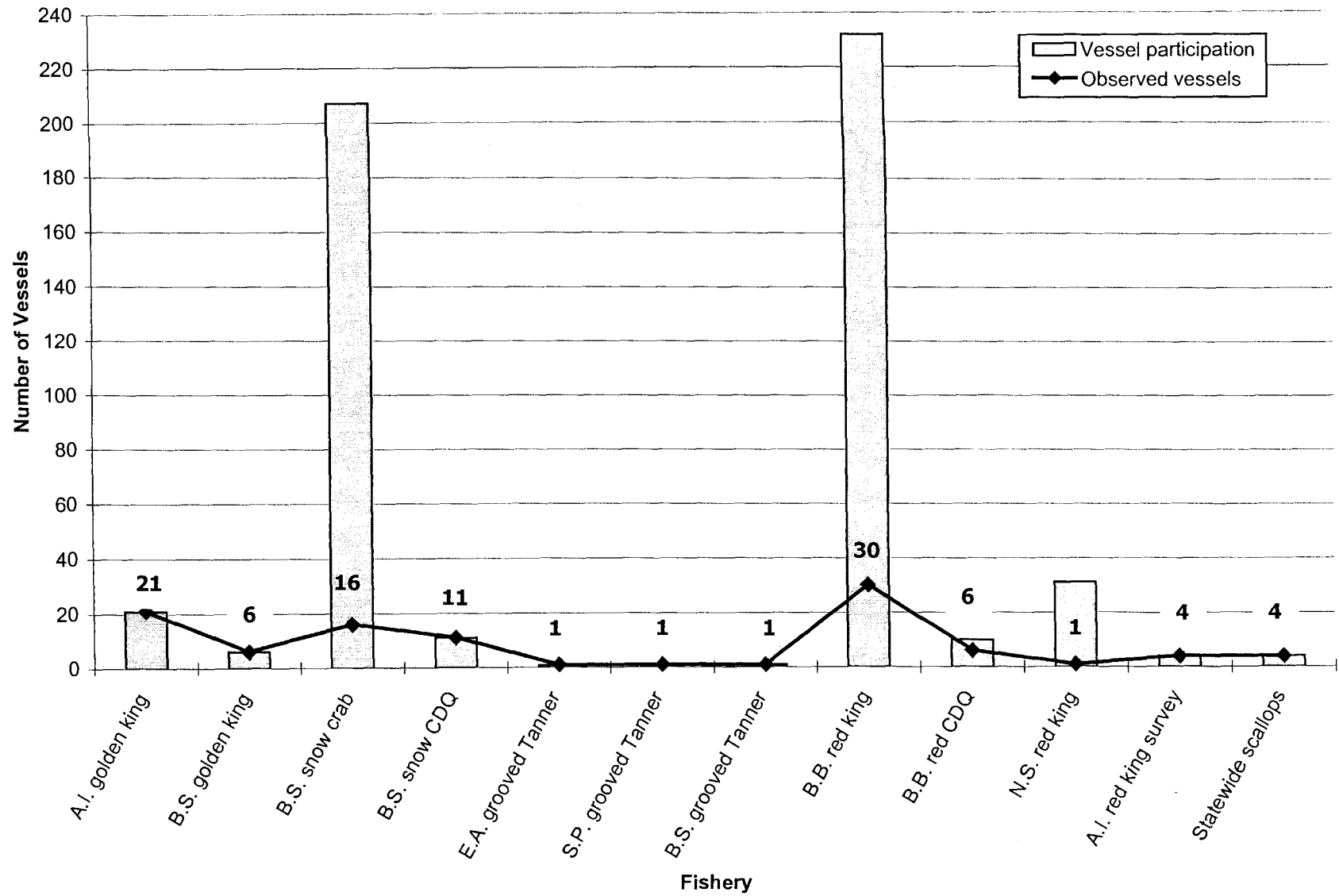


Figure 4. Level of observer coverage per fishery in calendar year 2001.

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